FLEET WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
2018 FREIGHTLINER FTL-310
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (12 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

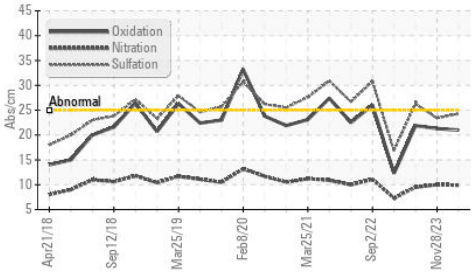
There is no indication of any contamination in the oil.

FLUID CONDITION

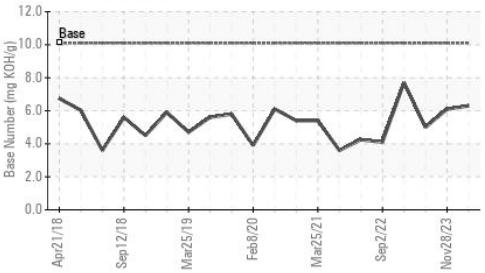
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013656	KL0011715	KL0007307
Sample Date		Client Info		24 May 2024	28 Nov 2023	01 Jun 2023
Machine Age	mls	Client Info		362079	342501	324679
Oil Age	mls	Client Info		19578	17822	19022
Filter Age	mls	Client Info		19578	17822	19022
Oil Changed		Client Info		Not Changd	Changed	Changed
Filter Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>165	23	72	27
Chromium	ppm	ASTM D5185m	>5	<1	4	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	4	4
Lead	ppm	ASTM D5185m	>150	3	3	2
Copper	ppm	ASTM D5185m	>90	1	3	<1
Tin	ppm	ASTM D5185m	>5	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>35	4	6	5
Potassium	ppm	ASTM D5185m	>20	2	3	2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>7.5	0.2	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	9.9	10.0	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.3	23.4	26.3
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Sodium	ppm	ASTM D5185m		4	4	5
Boron	ppm	ASTM D5185m	316	39	25	71
Barium	ppm	ASTM D5185m	0.0	0	2	2
Molybdenum	ppm	ASTM D5185m	1.2	40	45	114
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m	24	359	472	301
Calcium	ppm	ASTM D5185m	2292	1868	1430	1827
Phosphorus	ppm	ASTM D5185m	1064	1000	874	1033
Zinc	ppm	ASTM D5185m	1160	1197	1126	1253
Sulfur	ppm	ASTM D5185m	4996	3351	2736	3653
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.0	21.3	21.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	6.3	6.1	5
Visc @ 100°C	cSt	ASTM D445	15.7	13.2	13.7	13.8

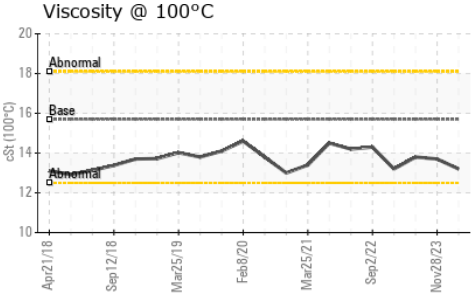
FT-IR (Direct Trend)



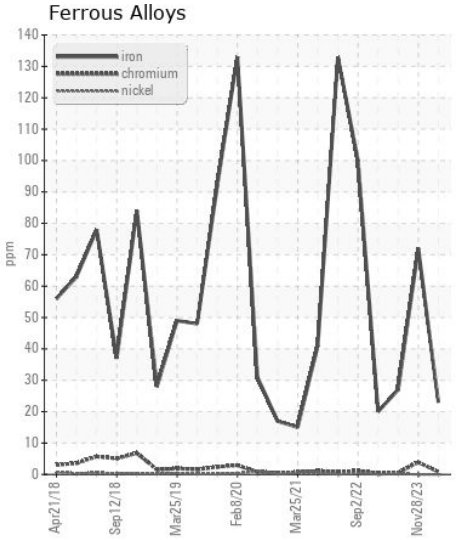
Base Number



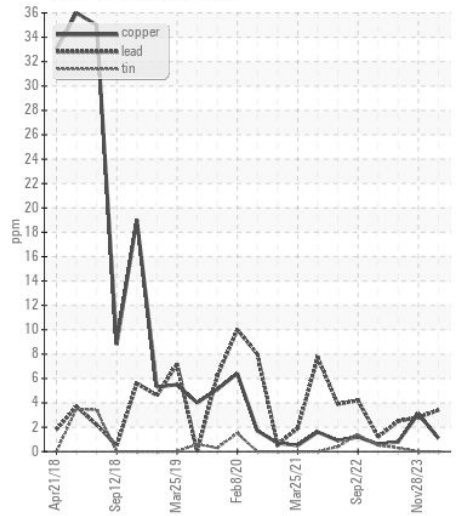
Viscosity @ 100°C



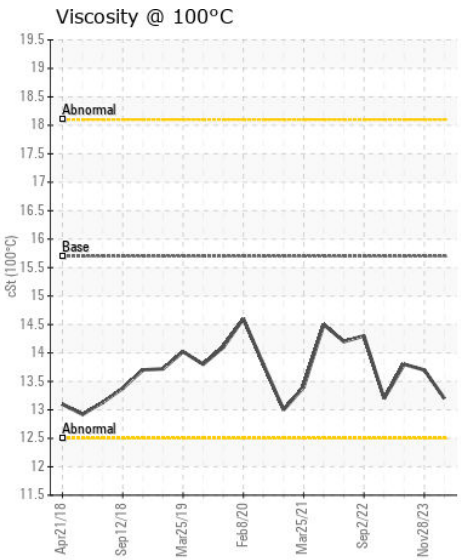
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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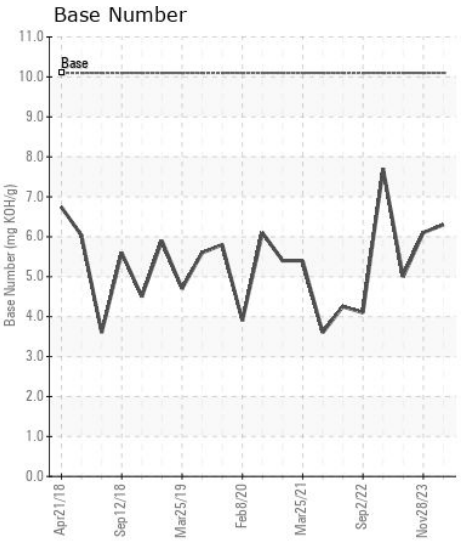

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013656
Lab Number : 06197232
Unique Number : 11059355
Test Package : FLEET

Received : 03 Jun 2024
Tested : 03 Jun 2024
Diagnosed : 03 Jun 2024 - Wes Davis

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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